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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,089	05/21/2007	Johannes Reinschke	2005P00319WOUS	7808
46726 7590 06/24/2009 BSH HOME APPLIANCES CORPORATION INTELLECTUAL PROPERTY DEPARTMENT 100 BOSCH BOULEVARD NEW BERN, NC 28562				
EXAMINER				
ANDREWS, MICHAEL				
ART UNIT		PAPER NUMBER		
2834				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/591,089

Applicant(s)

REINSCHKE ET AL.

Examiner

MICHAEL ANDREWS

Art Unit

2834

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-85/86)
- Paper No(s)/Mail Date 8/29/2006, 6/4/2009
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Individual Patent Application
- 6) ☒ Other: DE1143578.pdf

DETAILED ACTION

This Office Action is responsive to the Applicant's communication filed August 29, 2006. In virtue of this communication and the amendment concurrently filed:

- claims 1-6 were originally filed;
- claims 1-6 were cancelled by the preliminary amendment;
- claims 7-12 were added by the preliminary amendment; and thus
- claims 7-12 are now pending in the instant application.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claim 12 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Since the claim does not recite any further structural limitations of the drive unit, or specify any specific relationship between the axial displacement and the spring stiffness, it does not further limit claim 7.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "relatively low stiffness" in claim 11 is a relative term which renders the claim indefinite. The term "relatively low stiffness" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 7-9, 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Rumswinkel (DE 1143578).

With regard to claim 7, Rumswinkel discloses a linear drive unit (see col. 1, lines 1-5 and figures 1-3) comprising:

a yoke body [1] having an exciter winding providing a magnetic field (see col. 1, lines 5-10);

a magnetic armature part [2, 3] which is set in linear oscillating motion about a center position in an axial direction (reference [20] designates the direction of movement) by the magnetic field of the winding (see col. 1, lines 10-19);

a spring [4] having a fixed end clamped in a fixed manner with respect to the yoke body [1] and an oscillating end coupled to the armature part [2, 3] at a point of application and acting on the armature part in the direction of motion (see figure 1 and col. 1, lines 33-45); and

wherein in the center position of the armature part, the point of application of the spring on the armature part being displaced axially by a predetermined distance [b] in relation to its clamping position (see figure 3).

With regard to claim 8, Rumswinkel discloses the drive unit according to claim 7, as stated above, wherein the spring is configured as a leaf spring tensioned transverse to the direction of movement of the armature part (see figure 1; the spring is tensioned vertically while the direction of motion [20] is horizontal in the drawings).

With regard to claim 9, Rumswinkel discloses the drive unit according to claim 7, as stated above, further comprising a plurality of springs [4] disposed on both sides of the center position (see figures 1-3).

With regard to claim 11, Rumswinkel discloses the drive unit according to claim 7, as stated above, wherein the spring has a relatively low stiffness (see col. 2, lines 27-52).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zabar (US 6,323,568 B1) in view of Rumswinkel.

With regard to claim 10, Zabar discloses a linear drive unit [2] (see figures 1-3) comprising:

a yoke body [10, 20] having an exciter winding [15, 25] providing a magnetic field (see col. 3, lines 12-24);

a magnetic armature part [30-34] which is set in linear oscillating motion about a center position in an axial direction by the magnetic field of the winding (see col. 3, lines 36-40);

a spring [40] having a fixed end [42, 43] clamped in a fixed manner with respect to the yoke body [10, 20] and an oscillating end [41] coupled to the armature part [30-34] at a point of application and acting on the armature part [30-34] in the direction of motion (see col. 4, lines 30-36);

wherein the armature part [30] is connected to a plunger [3] of a compressor [4, 5, 6] (see col. 2, line 62 through col. 3, line 3).

Except that Zabar does not expressly disclose that, in the center position of the armature part, the point of application of the spring on the armature part being displaced axially by a predetermined distance in relation to its clamping position, and the axial displacement of the point of application of the spring on the armature part being provided in the direction away from the compressor.

Rumswinkel discloses the drive unit according to claim 7, as stated above, where the armature part is displaced axially in relation to its clamping position.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the linear drive unit of Zabar by offsetting the armature part away from the compressor as taught by Rumswinkel, for improving the efficiency thereof, since Rumswinkel teaches that such a drive unit minimizes the air gap between the magnetic components (see col. 1, lines 25-32).

10. Claim 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rumswinkel.

With regard to claim 12, Rumswinkel discloses the drive unit according to claim 7, as stated above, except that Rumswinkel does not expressly disclose that the axial displacement of the point of application of the spring is selected depending on the stiffness of the spring. However, it has been held that if the product in a product-by-process claim is the same as, or obvious from, a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Therefore, to select the axial displacement based on the spring stiffness in making the drive unit of Rumswinkel would have been obvious to one of ordinary skill in the art at the time the invention was made.

Citation of Relevant Prior Art

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Prior art:

- Ichii et al. (US 2004/0130221 A1) discloses a linear oscillator using leaf springs;
- Nishiyama et al. (US 2003/0173835 A1) discloses a linear oscillator using leaf springs;
- Nara et al. (US 6,540,485 B2) discloses a linear compressor using leaf springs;
- Ebinuma (US 6,252,314 B1) discloses a linear motor using leaf springs;

- Schmillen et al. (US 6,169,342 B1) discloses a linear actuator using an elastically deformable armature as a leaf spring.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Andrews whose telephone number is (571)270-7554. The examiner can normally be reached on Monday through Thursday between the hours of 8:30 and 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Quyen Leung can be reached at (571)272-8188. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Quyen Leung/
Supervisory Patent Examiner, Art Unit 2834

/M. A./
Examiner, Art Unit 2834

